

[LADDER-TYPE GATE STRUCTURE FOR FOUR-TERMINAL SOI SEMICONDUCTOR DEVICE]

Abstract

A ladder-type gate structure for a silicon-on-insulator (SOI) four-terminal semiconductor device is disclosed. The structure includes a gate having a first and second portion, a body region, which is under the first portion of the gate, a body contact, which is adjacent to the second portion of the gate, and a plurality of body contacts connecting the body region to the body contact through a drain region. The gate structure provides an independently controlled body region and includes a substantially uniform voltage across the body region in the SOI semiconductor device.